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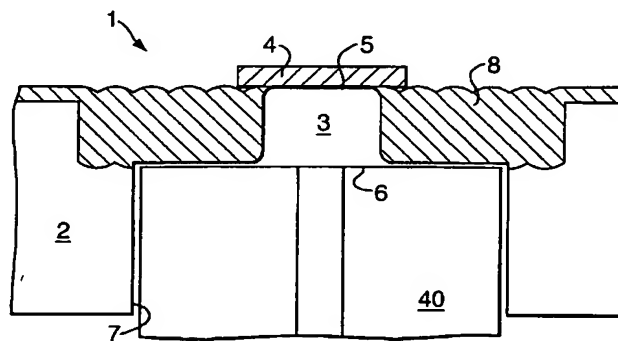
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(54) Title: FIBRE OPTIC BASED SEMICONDUCTOR MICRO SENSORS FOR SENSING PRESSURE OR TEMPERATURE, FABRICATION METHODS OF SAID SENSORS, AND A METHOD OF SECURING AN OPTICAL FIBRE TO A SILICON BLOCK



(57) Abstract: An optical micro sensor (1) for measuring one or more environmental parameters, such as pressure and temperature, through the modification of incident radiation. The sensor (1) is fabricated using MEMS technology and is adapted to receive an optical fibre (40) which communicates radiation to and from the micro sensor (1). The sensor (1) has an environmentally-sensitive element (4) which modifies the incident radiation communicated by the optical fibre (40). The modified radiation is communicated back along the optical fibre (40) and provides information regarding the environmental conditions surrounding the sensor (1). The pressure sensor is provided with a Fabry Perot cavity (3) in a first surface of a silicon wafer (2). The cavity is covered by a reflector at the environmentally-sensitive element (4). The diameter of the channel (7) holding the optical fibre (40) is greater than the diameter of the cavity (3). The temperature sensor is provided with luminescent material at the element (4). Also, a method of securing an optical fibre to a silicon block is claimed.



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